investors' capital. Unlike telephone companies, which provide a significant current return to shareholders, greatly moderating exposure to changes in business conditions, holders of cable company shares depend exclusively on appreciation. Appreciation, in turn is a function of long term prospects and exposure to long term business risk. The same factors, of course, raise the cost of debt capital for cable companies, which as noted in Appendix C is substantially higher than it is for telephone companies.

Negative net worth is ubiquitous in the cable industry. As of September 30, 1992, Continental Cablevision, Inc. showed negative equity of over $1.5 billion. Make no mistake: investors and creditors perceive value in the Company - but that value only represents the expectation of future profit.[12] Before any investment can be returned, debt must first be retired, which generally requires ten years or more. It is self-evident that investors are not expecting monopoly profits. On the contrary, such an investment demonstrates a willingness to defer gains for an extraordinarily long time. These conditions must be reflected

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[12] Earnings multiples imply nothing about cable system values. This view is validated by the fact that financial analysts do not formulate investment recommendations for cable companies on this basis and investors do not make purchase decisions based on such multiples.

an extraordinarily long time. These conditions must be reflected in the costs of capital for cable systems used for any cost of service rate regulation plan.

Depreciation. Paragraphs 13-16 seek comment on the types of depreciation and other capital recovery processes which should be cognizable for ratemaking purposes. Continental believes that the Commission should continue to allow cable operators to utilize the same depreciation practices that they utilized prior to enactment of the 1992 Act. These practices reflect several decades of experience with cable technologies and expected service lives, and the current practices clearly have not been biased by the effects of rate base regulation.[13] Continental currently uses the straight-line (vintage life) depreciation method over the following useful lives:[14]

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[13] Over time, the data that the Commission proposes to collect annually will allow it to calculate industry "benchmarks" for service cost components such as depreciation. These supplemental benchmarks, along the system of *rate* benchmarks and cost analysis that is supported in Continental's comments in this proceeding, will provide the best combination of robustness, efficiency incentives and ease of administration.

[14] Continental is currently reviewing the appropriateness of these useful lives based upon its most recent mortality experience.

Appendix B

Description	Life In Years
Reception, Distribution and Customer Connections	15
Converters	6
Traps and Subscriber Devices (e.g., remote units)	3
Local Origination and Tools & Test Equipment	7
Office Equipment	5
Vehicles	4

With respect to paragraph 14, the Commission should consider that current book reserves represent the operator's best use of retirement practices and depreciation adjustments because such reserves were developed during a period without rate base regulation, or any significant price regulation. Continental agrees that it would be appropriate to depreciate net book value over the remaining service life based on the average period depreciated per accumulated depreciation.[15] This would be easy to calculate and administer. However, as noted above, Continental does not believe that it is necessary for the

[15] For example, if the Commission decided that ten years was the useful life of distribution plant and a cable company was using twelve years, and accumulated depreciation represented an average of five years depreciation, the net book value would be depreciated over the next five years.

Appendix B

Commission to prescribe depreciation rates, as long as it can track changes in depreciation expense accruals relative to the period of deregulation.

Continental agrees with the Commission that depreciation calculations would have to account for cyclical effects in value of a cable operator's rate base.[16] Typically when a cable television company is granted a non-exclusive license from a municipality to build and operate a cable television system, the contract specifies the initial rates to be charged. These rates are based on a fully operational system with expected subscriber levels. Therefore, the subscribers who begin service before the system is completed will not be unfairly burdened. Excluding major plant investments (rebuilds) from the rate base until the plant is placed in service should avoid premature returns. However, rules must be established to account for the retirement of replaced assets by either writing them off to expense or

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[16] The units of production method for deferral of capital costs and depreciation mentioned in paragraph 15 would only apply to new build situations, of which there are few. It would be consistent with 76.703, Paragraph 1, to allocate these costs based on the relative number of subscribers. If something like the Commission's proposal is deemed necessary, companies would follow the subscriber months method of depreciation promulgated in Financial Accounting Standards No. 51, Financial Reporting by Cable Television Companies.

continuing to depreciate the assets under the group method. Either method should be part of the rate base. To avoid the burden on ratepayers of cyclical investments such as rebuilds, continuing depreciation of the retired asset would eliminate a sudden period charge to be recouped from the customer. This is the method that Continental currently follows.

As with other accounting issues presented in the *Notice*, Continental believes that the Commission's rules should be no more stringent than GAAP for amortizing goodwill. Unlike the telephone industry model, the cable industry's *continued use* of GAAP will have no potential adverse impacts on prices. Currently, the 40-year amortization period ascribed by GAAP is subject to discussion and review.[17] If the Commission decides to amortize Going Concern Value over a shorter period than 40 years, the remaining life of the associated franchise is a reasonable time period.[18]

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[17] *See*, for example, Davis, "Goodwill Accounting: Time for an Overhaul," *Journal of Accountancy*, June 1992 page 75, noting that the impact of intangibles has increased significantly in the last few years, and that the problem of intangible assets was compounded by accounting pronouncements.

[18] Going Concern Value is a cost of acquisition which requires a return of investment. Therefore, this amount must be included in the rate base. If it is not, then certainly the amortization should be recoverable as a current expense.

Appendix B

Operating Expense. Paragraph 17 of the Appendix discusses a framework for evaluating operating expenses in a cost of service regime. While some of the specific categories identified there actually refer to classes of the telephone industry's uniform system of accounts,[19] Continental is in general agreement with the Commission that expense allocation rules should follow investments or other factors where possible. However, the allocation process will have to be carefully defined in terms of the accounting records actually maintained by operators. As we discuss in Appendix A of Continental's Comments, accounting records are not maintained at the individual franchise level. Therefore, we do not keep property records by franchise, and often do not keep them by system. (Rather, they are kept by operations units which typically include at least several systems.)

The equipment cost methodology discussed in Appendix D should satisfy the requirements of the Act for segregation of the costs associated with equipment and equipment-related activities and leasing. The methodology could best be used to provide the "cost cap" on these charges and to allow the Commission to compare

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[19] 47 CFR Part 32.

actual costs among a sample of cable systems. The method thus can be used with rate benchmarks. Again, however, detailed allocations of these costs to the smallest geographical area may not be possible. Some costs,, such as property taxes, franchise fees, and special access assessments can be assigned to a specific franchise. But many operators, including Continental may not be able to identify, for example, maintenance trips by franchise. Even if we did, this would be a paper intensive, costly and cumbersome process to administer. Cable operators should be permitted (but not required) to average rates and costs for equipment and related items across multiple franchises, as long as the average rates reflect the directly attributed costs and reasonable overheads and equipment, installation and other costs are not recovered more than once from cable subscribers.

Design of rates. Continental believes that, if a cost of service methodology is prescribed as part of the rate regulation plan, the resulting revenue requirement should be used primarily as a check on the overall reasonableness of the operator's rates for basic service, cable programming service tiers and equipment. It could be wasteful and counter-productive to attempt to devise a method for allocating the revenue requirement to each and every

possible service or equipment offering. Such a process would require precisely the type of "cost allocation manual" that Congress wanted the Commission to avoid creating.[20]

Paragraph 18 of the *Notice* does, however, discuss two general methods for allocating the cable system revenue requirements to specific service categories. Neither method appears to be optimal, because some of the items referenced by the Commission, e.g., programming costs and advertising revenues, likely could be directly assigned to specific channels or tiers of service. For example, since almost all advertising revenue is derived from tiers above basic service, alternative two would not be appropriate, because it appears to contemplate flowing back to the basic tier all of the benefit derived from advertising revenues. Programming costs, including the costs that may be incurred under the retransmission consent provisions of the 1992 Act, should also be assignable to specific service tiers. On the other hand, other types of costs not mentioned in paragraph 18 may affect the rate design allocation depending upon the extent to which such costs are treated as joint and common costs. Customer costs, such as maintaining an account, billing,

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[20] *See Notice*, ¶s 57, 59 and footnote 87.

processing and other costs that vary strictly with the number of customers on a monthly basis, might be allocated as joint and common costs or, alternatively, they might be attributed to a separate functional category.[21] The precise method utilized should be incorporated ultimately in sections 76.703 and 76.704[22] concerning channel allocations of joint and common costs and further allocation among cable services based on direct costs.

Allocation metrics also will need to be specified in more detail than discussed in paragraphs 18 and 19 of Appendix B. For example, because many cable systems continue to experience subscriber growth, allocations based upon the number of subscribers could have distorting effects on less-mature systems. Continental believes that the projected number of subscribers should be based upon the current count unless the system is less than 2-3 years old, i.e., not mature. Channel allocations also raise difficult issues that will become more problematical over time with new technology like digital compression. If the

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[21] Most cable operators do not now impose separate fixed monthly minimum customer charges on their subscribers, although such pricing structures are common in other industries.

[22] *Notice*, Appendix A.

cost allocation relied upon channel allocations of joint and common costs, increases in a system's channel capacity using digital compression could artificially suppress legitimate basic service cost allocations. This result will certainly not produce a fair and reasonable rate for the basic service tier, particularly because the added channel capacity created by compression will be used primarily for a la carte channels priced on a per-channel basis, and likely appealing to increasingly specialized, smaller numbers of viewers. These anomalies can be avoided in several ways. Channel-based cost allocations could, for example, exclude channels devoted to programming priced on a per-channel or per-event basis. Alternatively, the capacity of various systems could be set at fixed reference indicators, similar to how the Commission treats digitally multiplexed telephone lines for rate regulation.[23]

[23] For example, DS1 digital telephone lines are fixed at a ratio of 24 voice bandwidth-equivalent channels although the same types of digital compression techniques utilized by the cable industry can readily supply three to four times more channels on the same facility.

APPENDIX C
FEDERAL COMMUNICATIONS COMMISSION
Docket No. MM 92-266

Developing the Correct Incentive Regulation Regime for Cable Television

APPENDIX C
Federal Communications Commission
MM Docket Number 92-266

Developing the Correct Incentive Regulation Regime for Cable Television[1]

Introduction

Given the extremely short amount of time that has been afforded the Commission to devise an effective cable rate regulation plan, wholesale reliance of traditional cost of service regulation and/or price caps could be tempting. Appendix B to the *Notice of Proposed Rulemaking* and paragraphs 57-61 discuss a relatively rigorous application of traditional public utility cost of service regulation to basic tier service. We believe the Commission is correct to conclude tentatively that this is not an appropriate method for rate regulation,[2] for many reasons in addition to those discussed in the *Notice*. The *Notice* also includes a telephone industry-type price caps system as a potential mechanism for regulating the basic service tier[3] or regulated cable programming services.[4] We believe that the rate regulation regime appropriately suited for the cable industry should also differ in a number of important respects from the telephone industry price caps model.

In this paper, we will make three points that are quite important to the Commission's development of a rate regulation regime for both the basic service tier and for optional cable programming services:

- Analysis of the historical, operational and financial attributes of the cable industry clearly demonstrates why rate re-regulation by the Commission should be developed within a paradigm of price and/or cost oversight, which is not simply "borrowed" from regulation of telephone companies.

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[1] Prepared by W. Page Montgomery, Senior Vice President of Economics and Technology, Inc. Boston, with research assistance by Paul S. Keller and Jenny H. Yan.

[2] *Notice*, at paragraphs 33 and 59 (footnote 87).

[3] Paragraphs 49 to 52.

[4] Paragraphs 91 and 92.

- Over the last 20 years, many practices have developed in the cable industry that more closely resemble practices in non-regulated *and competitive* industries than in public utilities. The way that cable companies are managed so as to achieve acceptable cash flows over long periods is similar to many fully competitive industries like real estate. It is not at all like the traditional public utility objective of maximizing current earnings on "rate base." The goal of an incentive regulatory plan for cable should be to preserve these competitive market characteristics, while still providing the degree of price control and consumer protection required by the 1992 Act.

- Importing the traditional public utility ratemaking definitions of "rate base" and "rate of return" into cable rate regulation would eventually lead to *disincentive* effects having no benefit to cable customers, the industry or those chartered with overseeing it. The current form of Price Caps regulation with its national average price index adjustments, limited set of "exogenous" adjustments and well-defined service baskets and bands, was developed for telephone carriers using an established data base for a stable, long-regulated telephone industry and other factors rooted in traditional regulation. Current Price Cap regulation thus is likely to be too rigid to apply to the cable company, at least initially.

The essence of these points is that, whatever regulatory form or forms are adopted for the cable industry, the Commission should begin with a "clean slate".

The telephone company regulatory paradigm does not apply

Given the current publicity concerning telephone company ventures into cable TV and cable operators' examination of telephony, it is not surprising that these two industries are sometimes viewed as twins. After all, both industries offer services that come into their customer locations over a "wire" and these wires are both used for carrying electronic signals. The technologies used to manipulate these signals look, on the surface at least, quite similar for they involve the transmission and concentration of the respective signals by electronic means and successor technologies.

For most of their respective histories, both the cable and telephone industries have been subject to seemingly comparable forms of government regulation. The services they offered have been subject to governmental oversight. Both industries operate within franchises and licenses granted by pursuant to public laws. Both industries are now rate regulated.

These parallels are, however, quite deceiving. As the Commission defines a rate regulation scheme for the cable television industry, it is imperative that it focus upon the underlying *differences* between cable TV and telephone industries. This focus should avoid trying to force fit rate regulation for the cable industry into an incorrect paradigm derived largely from the telephone company regulation model. While the Commission's obligation to develop an effective and efficient rate regulation mechanism for cable TV is no longer subject to debate, a rate regulation plan rooted in traditional telephone company cost of service rules — or even adopting the more recent "price caps" model — would be fundamentally wrong.

Every form of rate regulation (or any regulation, for that matter) is "incentive regulation." Rules adopted by governments always change the behavior of those subject to rules. Traditional public utility cost of service regulation imposes one set of incentives, the effects of which are by now relatively well documented. The price caps plans adopted by the Commission attempt to substitute a slightly different, potentially more publicly beneficial, set of incentives. The newer system has both incentive and *dis*incentive effects but only time will tell exactly what these are or what new balance has been established by the reforms. The incentive regulation applied to the cable TV industry may well draw upon lessons taught by either of the two forms of telephone company regulation.[5] But cable price regulation must accommodate very different requirements than either of the two antecedents.

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[5] The considerations that led the Commission to move away from the traditional rate setting model, and towards price caps included (a) Concern that traditional regulation contained too few incentives for efficiency, cost control and innovation by telcos, and (b) concern that rate of return regulation was resource-intensive to administer, especially in the face of other, growing FCC responsibilities and limited resources. These same basic problems can be avoided in designing a cable regulation plan. The goal should be to ensure as well that *existing* cost-control and innovation incentives in the cable industry are not compromised in the process.

A historical comparison

History shows the essential differences between today's local telephone industry and today's local cable operator. By the time rate regulation began to be vigorously applied to the telephone industry by state regulators and this Commission (broadly, during the 1930s) a highly rational industry organization had already been developed by entrepreneurs like Theodore Vail and others.[6] The Bell System had the franchises — permanent franchises — serving most of the major urban areas in the United States. Bell was able to serve the major areas of population growth through service territories spanning both cities and emerging suburban areas. It controlled the intercity links as well. The Bell System was designed to, and did, effectively exploit the economies of scale and scope that was labelled "a natural monopoly."

The cable television industry, on the other hand, was regulated from the get-go. Historical policies of this Commission channeled the development of cable television away from the markets then served exclusively by the still-developing broadcast television industry. Equally important, as it developed, cable TV was subject to local, geographically limited franchise regulation that Vail had managed to avoid.[7] Local oversight has played an important role in the development of the cable TV industry with both good effects (from the standpoint of the First Amendment and local speech, for example) and possibly bad ones (with respect to limiting the industry's ability to capture scale and scope economies).[8]

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[6] Brooks, *Telephone: The First Hundred Years*, Harper & Row, 1976. pp. 127-186.

[7] The telcos enjoy broad, permanent franchise certificates of convenience and necessity within most of their service territories and these grants generally include direct legal rights like eminent domain. Cable operators are almost always certificated by individual communities, under franchises of limited durations averaging 15 years or less. Important rights like eminent domain extend only from these cable franchises themselves or may not even exist. While many municipalities arguably have the power to award "overbuild" rights to a second cable TV distributor or even to construct their own plant, only a handful of municipalities, at best, inherently retain such powers with respect to local and exchange access.

[8] Not only was the cable industry prevented from exploiting whatever scale economies were available from combining urban, suburban and even contiguous rural areas into a single network, other regulatory policies created an entirely independent network of "long lines" (in the Bell System parlance), using the domestic satellite industry for the intercity movement of signals.

The effects of the different franchising schemes for cable and telephone companies are quite significant. Telephone companies strived for many years to achieve universal service, but there were few government-imposed deadlines for connecting potential subscribers. Cable operators typically had to agree to wire an entire community within a fixed time frame. These deadlines were only one part of the bidding process that created the "franchise wars" among potential cable operators. The obvious effect of the cable franchising process is that it created incentives for operators to offer various muncipal benefits, low initial service prices, and rate freezes in order to win franchises.

At this point, if not before, cable operators made the rational economic decision to run their businesses for long-term cash flow rather than the immediate, steady earnings and dividend payouts that characterize public utilities and today's local telephone companies. The consequences of this decision should not be overlooked by any rate regulation plan. Changing the cable industry from one willing to defer its gains to an industry seeking nothing more than immediate returns on investment would not fulfill the spirit of the 1992 Act.

The cash flow model

Many methods may be used to perform financial analysis, but there are only two basic conceptual frameworks for these methods. *Classical financial analysis* is based on the relationship between a firm's earnings and its net worth, as derived through generally accepted accounting principles. *Cash flow analysis*, however, has become the standard for firms displaying a certain set of characteristics for which the drawbacks of the classical approach became apparent. Over time, many industries have come to be measured by the cash-flow standard. Each method is accepted by the financial community as the standard for the different sets of firms[9] and the behavior of those firms differ accordingly.

The distinction between the two sets of firms relates to two differences: the way that investors and creditors identify the cash streams that generate a return on

[9] Both frameworks share the same basic principles such as return on investment and the same tools, such as the capital asset pricing model; the difference in analytical emphasis results from distortions introduced when certain accounting conventions are applied to "cash-flow" firms.

investment and debt service ability, respectively, and the relationship of those cash streams to asset valuations and (by extension) net worth. Classical analysis is rooted in the conversion of assets into cash, a process known as the "asset conversion cycle": buying assets and liquidating them over time. The factors which influence a firm's ability to perform this function constitute business risk; investors and creditors weigh the combined business and financial risk, and depending upon their perception of total risk, demand a return proportional to that risk. This model, the classical model, provides the basis for establishing the allowed rate of return for public utility companies and are the roots of the *Hope* and *Bluefield* standard.[10] But the classical model works only insofar as its basic assumption holds true, i.e., that the asset values on a firm's balance sheet are a reliable indicator of future revenues. Classical analysis is effective for firms whose asset values are more or less accurate indicators of revenues. Predictions of future earnings can be derived from asset-base revenues and calculations of expenses in order to project a stream of cash with which to service debt and return cash to shareholders.

Conversely, to the extent that asset values do not predict revenue generation accurately, the accuracy of classical analysis is impaired. In some cases a classical analysis can adjust for such distortions.[11] A more fundamental issue arises, however, when a firm's asset values in general do not directly influence revenues. Such conditions led to the acceptance of cash-flow analysis as the only accurate framework for companies for whom this applies. Real estate investors and lenders were the first to recognize the drawbacks of the classical paradigm as applied to their enterprises; this is important because real estate is a competitive industry by any definition. Buyers of such assets typically seek a return from the net present value of

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[10] *Notice*, Appendix B, footnote 229.

[11] For example, GAAP requires that real estate be valued at cost. After a period of rapidly rising real estate values, the value of the real estate could be many times that which the balance sheet indicates. This was often the case in the eighties, and the identification and liquidation of these and similarly undervalued assets precipitated much of the leveraged buyout activity of that decade. In other words as long as the undervalued assets can be identified, classical analysis can adjust future earnings expectations.

the rents rather than from reselling the asset in the near future.[12] Thus, buyers can disregard balance sheet valuations except to the extent such data provide data with which to adjust the results of the fundamental analysis.

As the methodological superiority of cash-flow analysis became evident, it came to be applied to an increasing range of industries. The emergence of cash flow analysis as a superior approach for these firms is critical in understanding capital deployment and investor behavior in the cable television industry, in determining an equitable return on invested capital for cable companies, and for contrasting cable companies with telephone companies generally.[13] Investors in cash-flow companies rely on long term assumptions about cash flows as a means of assessing capital appreciation, rather than looking to a current return. Because of the high non-cash charges to earnings which mask actual cash generation such a firm may be valuable. Yet its balance sheet may show a negative net worth, implying that the firm has negative value.

This pattern of deferred returns has characterized the development of the cable television industry. As with real estate, the valuation of these assets on a balance sheet are based on cost. The net present value of the income streams generated by those assets is nowhere represented, except at the time of an purchase of a firm, when its assets are revalued at their new cost. Yet cable operators' balance sheets do, in fact, reflect the amount of capital investment which *must eventually be recouped* in

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[12] Commercial real estate assets also generate revenue; however, the assets are not truly liquidated through the revenue generation process, as is the case for inventory or accounts receivable. Depreciation is an accounting convention that is intended to reflect the asset conversion cycle for fixed assets, but in reality the net book value of these assets bears no direct relation to their revenue generating capabilities. The real price of building rents may remain the same (accounting for supply and demand, inflation, and so on), while the book valuation decreases through depreciation. Building renovations can restore assets so that their revenue generating capabilities increase, but the full recognition of the net present value of those higher rents is not reflected in the balance sheet. Likewise, inflation, normal growth in demand for office space, and other factors act to increase rents, without being capitalized on the balance sheet.

[13] In fact, the deficiencies of the classical model are even greater for the purpose of analyzing cable television assets than they are for evaluating real estate assets, since the variables that influence an expected return are far more numerous. Projecting cash flow streams from real estate assets depend on relatively few variables: Square footage, occupancy rate, rents, and associated operating and capital expenses. In contrast, firms like Continental have identified at least 36 variables (some of which are subjective) that influence the projection of cash flow streams from cable television assets.

order for the firm to show a profit. The firm may have created value, but it is the realization of that value that generates a profit.

The financial incentives extant in the telephone industry today are strikingly different. For many years, through the entire postwar development period in the US, telephone stocks have paid steady dividends and exhibited very low beta coefficients.[14] Telephone companies enjoy a measure of protection against losses of capital: The precise rate of return allowed by regulators is not "guaranteed" for the telephone companies, of course, but regulation does ensure that all invested capital would eventually be recovered at rates sufficient to avoid confiscation. Cable companies rarely pay dividends; cable investors' rewards occur through system growth and capital appreciation. Telephone companies may manage certain internal investment decisions by life cycle analyses, but because the "revenue requirement" has so long been set regulators, the immediate impact of business decisions on the revenue requirement has long played the central role in the telcos' business decisions.

Among its other effects, local telephone company regulation in the public utility model has vastly distorted the apparent book value of the industry's asset base. Unlike non public-utility industries, including the cable industry, if an telephone asset is retired before the end of its contemplated service life for depreciation purposes, the net undepreciated plant used to calculate the telephone company's rates remains unchanged.[15] This phenomenon is known as "stranded investment" and its effect on the stated value of local telephone industry plant has been and continues to be quite large by the industry's own calculations. A telephone company's actual rate of capital utilization is affected, of course, by technology and financial factors, but since capital recovery has been assured under regulation, telcos have no incentive to write off value of retired but un-depreciated plant.

The telephone industry usually blames the existence of stranded investment on its

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[14] The beta factor measures the sensitivity of the price of a single stock to movements in the prices of a large group of stocks, or technically the average covariance of the stock value to all stock values.

[15] The accounting process requires that the original cost of an asset be deducted both from total original cost of plant and total depreciation reserve. Since rates are calculated, under traditional cost of service methods, as the net difference between the original cost and the depreciation reserve, deducting the same value from both accounts leaves the net value unchanged.

regulators, claiming that inadequate rates of depreciation prescribed by the regulator cause this problem. But rate regulation is intended only as a substitute for market forces where they do not exist. Telephone companies' blame the institution that *is, in fact, designed to act as the market surrogate* and ask that regulators correct the supposed "errors" of the process. But this plea has no more validity than an unregulated manufacturer or bank blaming the reduced value of its assets on foreign competition, sour real estate markets or any number of other market factors. Indeed, the potential over-capitalization incentives fostered by classical rate base regulation provided a keystone for the Commission's consideration of price caps.[16] And some commenters in the price caps proceeding noted that "balance sheet reform" ought to be one important by-product of any shift in regulatory incentives for telephone companies.[17]

The lack of a "rate base" effect in the cable industry is one reason why traditional rate base regulation need not and should not be imposed. Even before the 1984 Act took effect, cable operators' economic analyses were not couched in terms of regulatory "revenue requirements," and certainly during the period without rate regulation no biases related to rate regulation were reflected in cable industry financial or operating practices. A cable operator's capital investment and recovery decisions are affected by the same factors that affect any industry, including technological and

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[16] These types of considerations were reiterated by the Commission in most of its Notices concerning telco common carrier price caps regulation, starting with the *Notice of Proposed Rulemaking* in the Price Caps Docket. Policy and Rates for Dominant Carriers, CC Docket 87-313, 52 Fed. Reg. 33961, at paragraphs 17-19.

[17] We noted, for example, that price caps regulation should establish "capital recovery incentives like those that apply to all capital-intensive industries that are not subject to rate base/rate of return regulation. Certainly, a positive effect of eliminating rate base regulation of dominant carriers should be their efforts to make current charges to earnings in order to eliminate phantom investment from their rate bases and improve their balance sheets.... [Price caps] should not and need not be conditioned upon effects, such as the recovery of retired but undepreciated assets, that are simply the arcane product of the current regulatory system and incentives. Additionally, it is far from clear that the shareholders of [a carrier subject to price caps] would be harmed in any way by changes in their capital recovery practices and the carriers' efforts to improve their balance sheets. Stock prices for firms that have charged asset writeoffs against earnings not only may not suffer from such activities but often increase to reflect the higher quality of future earnings streams created by restructuring." Montgomery and Selwyn, "Implementing Price Caps for AT&T and Other Dominant Carriers," submitted in CC Docket 87-313, October 19, 1987, at pp. 51-52.

financial conditions, and perhaps by unique circumstances such as the limited duration of cable franchises.

Thus unlike the local telephone industry (either before or since price caps), cable system write off a plant when it is retired and usually take the maximum allowable writeoffs of capital incurred at the start up of a system. Continental Cablevision, typical in this respect, has written off assets worth nearly $100,000,000 over the last four years alone. Under current telephone company type accounting, with the expectation that the capital written-off would *eventually be recovered* through regulated rates, Continental's "revenue requirement" per subscriber per month would now be $0.72 to $0.86 higher per month. In other words, rate base regulation likely would inflate cable companies' reported net plant assets if telco accounting were used.[18]

Current conditions

Historical factors thus have created a number of very important differences between the cable industry and the local telephone industry. The Commission should match its regulations to these differences because the 1992 Cable Act itself does not provide any analysis of the actual economics of the cable industry, or how these conditions should influence the design of rate regulation for the industry.[19] For example, the Commission contrasted rate base and price cap regulation for telephone companies in part because of the belief that the former engendered significant

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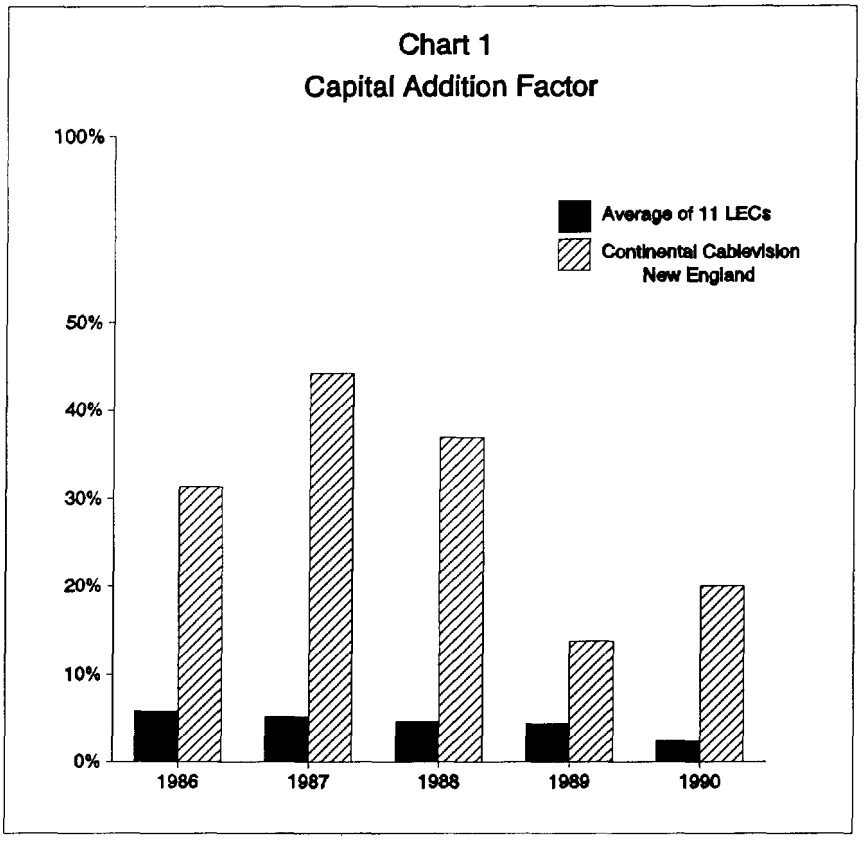
[18] Indeed, an orthodox revenue requirement analysis might well support significantly higher rates, including rates for basic service. The size of potential increases might depend upon how "intangibles" such as goodwill or franchise rights were capitalized in the cable operator's rate base, as the Commission has recognized. However, most of these so-called "intangibles" have a legitimate, identifiable economic value thus could not fairly be deducted from a cable system's "rate base.

[19] One certainly cannot infer from the passage of cable rate regulation that the industry's cost function is either well-understood or particularly stable at this time, because there have not been any rigorous analyses of cost conditions in the industry as part of the cable policy debate. For example, the numerical results of the GAO Report on cable system rate trends to the House Telecommunications Subcommittee were widely reported. [GAO RCED 90-199, June 1990]. Little recognition was given, however, to GAO's disclaimer that, "we cannot state the extent to which rate increases were accompanied by increased costs since it was not feasible within a reasonable reporting time, to collect cost data..." [p. 39].

inefficiencies in the telephone companies.[20] Data suggest that the same embedded inefficiencies do not exist in the cable industry. In 1990, the regional Bell companies supported 244 access lines with each full time employee; all LECs (a population that includes smaller carriers that look in many ways more like many cable systems) supported only 232 lines per employee.[21] Moreover, the telephone companies employee ratio includes many multi-line business customers that have lower unit costs per line. In contrast, Continental Cablevision's largest regional operation (a fraction



Source: FCC Common Carrier Statistics

the size of an RBOC) serves over 512 subscribers with each of its full time employees — and nearly 580 subscribers when employees dedicated to fulfilling its local access

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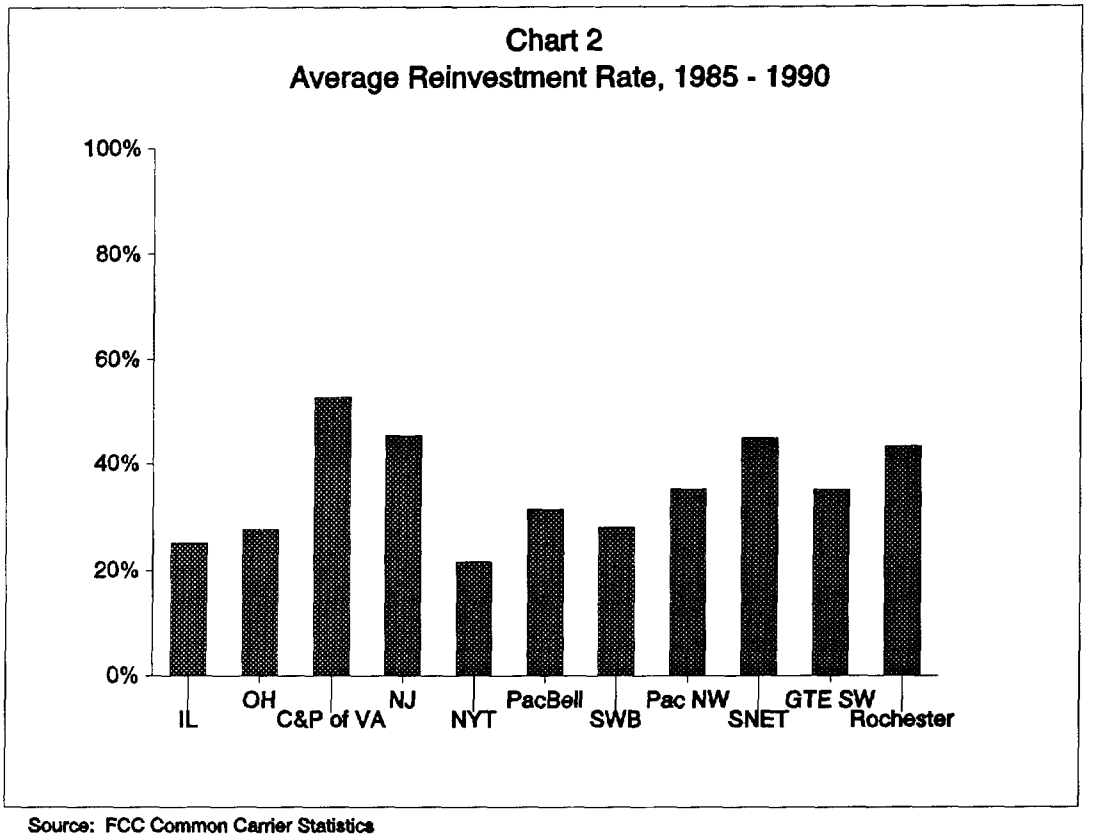
[20] Policy and Rules Concerning Rates for Dominant Carriers, CC Docket No. 87-313, *Further Notice of Proposed Rulemaking*, 3 FCC Rcd. at 3195 (1988), Paras. 24, 38-56.

[21] These calculations utilize data reported on Table 2.9 of the 1990 *Statistics of Common Carriers.*

and origination obligations are excluded.

Telephone company rate base regulation and the successor price caps regime have been applied to very mature companies. Between 1986 and 1990, a group of eleven of the larger local telephone companies' gross plant additions as a percent of gross plant in service declined persistently from 5.8% to 2.4%, as shown in Chart 1, above.



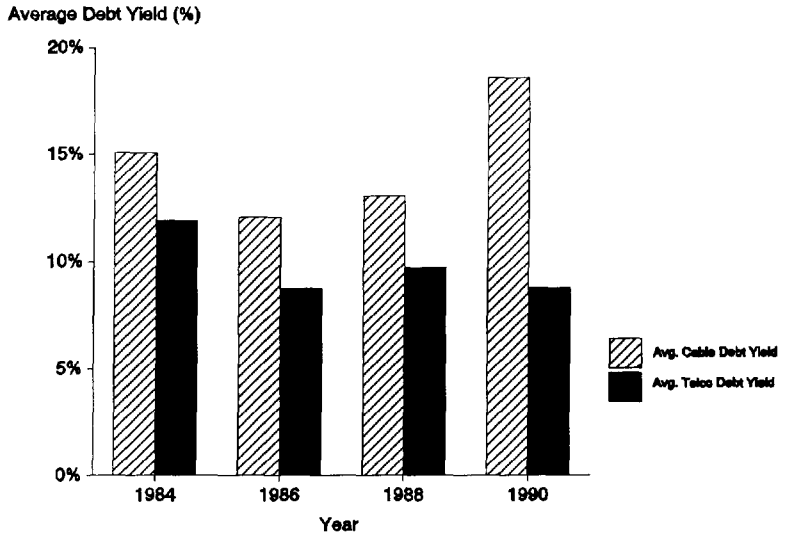
Source: FCC Common Carrier Statistics

Plant additions for some of Continental's multi-system regions not only are higher on average, these additions occur with much higher spikes (i.e., larger lumpy increments of capital) in individual operating units. In fact, the "lumpy" nature of a cable operator's capital additions would be much more difficult to accommodate under traditional cost of service regulation. This characteristic is much more typical of the effects of plant upgrades on the smallest telephone carriers: The Commission has

never applied individual cost of service regulation to these smaller carriers.[22]

It is also well known that the local telephone companies' "reinvestment rates" are low and declining. The reinvestment rate is the percentage of annual earnings and depreciation accounted for by gross capital additions. Chart 2 shows the five-year average reinvestment rates for the same sample of large telcos used in Chart 1. These sample's average reinvestment rate falls between 35% and 36%. Naturally all of this new investment can be funded by internal means. Aggregate reinvestment by Continental Cablevision exceeds 100% of its combined depreciation and current earnings when computed like the telephone industry value. This plant growth can only be accommodated by extensive outside financing; cable industry economics do not permit growth to be paid for out of current subscriber rates.

Chart 3
Cable vs. Telco Debt Yield



[22] The smallest telephone companies' interstate revenue requirements are set by means of national average schedules, while most of the intermediate companies have been allowed to participate in one or more "pools" maintained by the National Exchange Carrier Association (NECA). Interstate rates for these carriers are averaged in NECA Tariff FCC No. 5.

Of course, many of the differences in the relative life cycle positions of the telephone and cable industries are reflected in the two industries' access to and use of capital. Chart 3 shows the average yields on cable and telecommunication debt at 1984, 1986, 1988 and 1990.[23] The simple average yield differential in these observations in nearly 500 basis points.

Chart 4
Cable vs. Telco Beta Factors - 1992

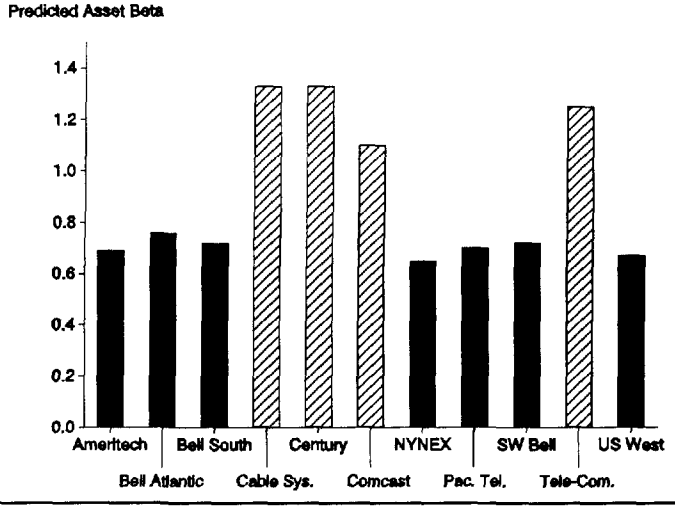


Chart 4 demonstrates that the beta factors for four major publicly-traded cable companies in 1992 remained about 80% higher than the betas observed for regional Bell stocks. This current differential in equity betas is somewhat lower than the 106% gap that existed in 1986 (See Chart 5), but it remains very large by any measure.[24]

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[23] These data were provided by Lazard Freres.

[24] The beta factors shown on Charts 4 and 5 are the predicted asset betas calculated by Barr Rosenberg Associates, an established financial industry data source, from reports dated December 1986 and October 1992, respectively. These factors are expressed relative to the composite beta of the S&P 500, which is set at 1.00. The cable companies shown are Cablevision Systems, Inc., Century Cable, Comcast and Tele-Communications Inc.